

# Work Order ID 66007



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Tuesday, February 01, 2011 1:15:42 PM

Item ID: D3391-025	Accept		Setup	Start	
Revision ID:				Stop	
Item Name: Aft Tube Assembly					
Start Date: 2/2/2011	Start Qty: 1.00		Cust Item ID:		
Required Date: 2/16/2011	Req'd Qty: 1.00		Customer:		
Reference:					

Approvals:	Process Plan: <u>mf</u>	Date: <u>11-02-01</u>	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3391	Rev H/ DEO

100  
 MORI SEIKI CNC LATHE LARGE 0.00  
 Mori Seiki Memo 0.00  
 Mori Seiki CNC Lathe Large Turn as per Folio FA599 Rev AA & Dwg D3391 Rev: H SL 11/02/08 ①  
 \*\*\*scribe batch # on fwd end at 90 degree\*\*\*

110  
 QC2- Inspect parts off machine FAI/FAIB 0.00  
 QC Memo 0.00  
 Quality Control SL 11/02/08

111  
 QC8- Inspect parts - second check 0.00  
 QC Memo 0.00  
 Quality Control anh 11/02/08 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 66007**

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Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 2/2/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/16/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1  Memo 1-Machine as per Folio FA 599 Rev: <u>AA</u> & Dwg D3391 Rev: <u>H</u> 2-Deburr	0.00  0.00							
130  QC Quality Control	QC2- Inspect parts off machine FAI/FAIB  Memo	0.00  0.00							
140  QC Quality Control	QC8- Inspect parts - second check  Memo	0.00  0.00							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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**Accept**

**Setup Start**

**Stop**



**Start Date:** 2/2/2011      **Start Qty:** 1.00

**Cust Item ID:**

**Required Date:** 2/16/2011      **Req'd Qty:** 1.00



**Customer:**

Run Start



**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Stop**



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

**Insp.  
Stamp**

0.00



## Skidtubes

0.00

## Skidtubes

## Memo

1-Drill ( PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

## Skidtubes

160

0.00



## BENDING MACHINE - SKIDTUBES

0.00

CNC Bend 1

## Memo

Form as per Dwg D3391 Using Bend Prog 3391025

## CNC Delta 100 Bender

170

QC5- Inspect part completeness to step on W/O

0.00



QC

## Memo

0.00

### Quality Control

4.430

① / 0 BE 11/02/23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

180

0.00



Skidtubes

0.00

Skidtubes

Memo

Skidtubes

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217  
Wearplate Jig

\*\*\*\*\*Do Not Open To Finished Size\*\*\*\*\*

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2  
previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe, wearplate to 0.297" and float bag holes to 0.328" as per  
Dwg D3391.

7-Deburr

BE 11/04/27

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

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Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8 ulor/27

②

200

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1 ② BB 11/01/27

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 ② BE 11/01/27

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Run Start



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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

220

0.00



Skidtubes

Skidtubes

Memo

0.00

Instal spacers as per dwg D3391  
A/R Magnabond 6398 Batch: 7116678  
exp. date: 08 2011  
cure time 12hrs as per QSI0015

1 2 BE 1/04/27

230

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

(10)

235

0.00



Pressure Wash per QSI005 4.3

HandFinish

Memo

0.00

AND REALODINE AS PER PAR09-043

1 0 211 1/04/20

Hand Finishing

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 66007**

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Item ID: D3391-025

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Item Name: Aft Tube Assembly

Start Date: 2/2/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/16/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

240

White Gloss(Ref:4.3.5.1) per OSI005 4.3-Alum

0.00



M 116964.

Powdercoat

Memo

0.00

Powder Coating

START TIME: 1:10  
OVEN TEMPERATURE: 3200  
FINISH TIME: 1:40

1 11-4-28

250

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 11-4-29

260

HandFinishing

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install inserts as per Dwg D3391  
2-Install Aft Cap as per Dwg D3391  
A/R Sikaflex-241/-291 M 116918  
Sikaflex expiry date: 12/01

1 11-4-29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Work Order ID 66007

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Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 2/2/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/16/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00				<u>11</u>	<u>11</u>	<u>04</u>	<u>29</u> ①
280  Packaging Packaging	Identify as per dwg & Stock Location: <u>w/o</u>  Memo	0.00  0.00				<u>1</u>	<u>0</u>	<u>21</u>	<u>11/04/29</u>
290  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00							<u>11/4/29</u> <u>mf</u> <u>11-04-29</u>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



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**Required Qty: 1.00**

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6014-090		Manufactured	No			100	Each	26.0000	1	1			
												SL 11/02/08	
ALUMINUM EXTRUSION													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				26			1		
					56572			26					
D3670-4-200		Manufactured	No			230	Each	56.0000	4	4			
												BE 11/04/27	
SPACER													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				56					
					57349			34					
					63317			22					
								B67777 →		4			

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

Tuesday, February 01, 2011 1:15:34 PM

Work Order ID: 66007

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 2/2/2011

Required Date: 2/16/2011

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

270 Each

83.0000

1

1



Aft Cap



XL 11/04/29

Location

Loc Qty

Loc Code

FP-4

13

57332

13

FP6

16

52663

3

62678

12

63633

1

Return 2010

54

62678

54

D3537-1

Manufactured No

270 Each

54.0000

1

1



Wearpad



XL 11/04/29

Location

Loc Qty

Loc Code

FP017

54

64424

54

B66135

XL

D3537-7

Manufactured No

270 Each

17.0000

1

1



Wearpad



XL 11/04/29

Location

Loc Qty

Loc Code

FP16

17

56831

9

65146

8

XL

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Parent Item: D3391-025



Parent Item Name: Aft Tube Assembly

Start Date: 2/2/2011



Required Date: 2/16/2011

Start Qty: 1.00



Required Qty: 1.00

D3553-1	Manufactured	No	270	Each	29.0000	1	1
							<u>u/04/29</u>
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	29	
33868	1	
<u>56568</u>	28	

D3553-3	Manufactured	No	270	Each	33.0000	1	1
							<u>u/04/29</u>
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	33	
<u>53480</u>	33	

D3672-1	Manufactured	No	270	Each	1,307.000	2	2
							<u>u/04/25</u>
Phenolic Washer							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST077	1307	
42329	10	
<u>52505</u>	297	
64177	1000	

W/O:		WORK ORDER CHANGES					
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Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 2/2/2011

Required Date: 2/16/2011

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130 Purchased No

260

Each

729.0000

14

14



11/04/29

Insert

## Location

## Loc Qty

## Loc Code

PKG11

480

M117331

X14

114723

480

ST281

114

116049

114

ST282

96

110511

10

115911

86

ST381

39

114654

39

ALS4-1032-225 Purchased No

270

Each

4,024.000

12

12



11/04/29

Insert

## Location

## Loc Qty

## Loc Code

PK011

4024

110768

4024

X12

AN3C4A Purchased No

270

Each

2,072.000

6

6



11/04/29

BOLT

## Location

## Loc Qty

## Loc Code

ST350

2072

115300

25

116075

947

116590

100

116704

1000

M116924

X6

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Shop Packet Print

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W/O:		WORK ORDER CHANGES					
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Start Date: 2/2/2011

Required Date: 2/16/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No

270 Each

946.0000

4

4



*Jul 11/04/24*

Bolt

Location

Loc Qty

Loc Code

ST350

946

114330

11

115015

13

115371

18

115422

100

115594

6

115835

198

116419

500

*x4*

116549

100

AN960C10L NAS1149C0332 Purchased

No

270 Each

25.0000

10

10



*Jul 11/04/24*

washer

Location

Loc Qty

Loc Code

ST245

25

107534

25

*11/11/24*

*x10*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	66007
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b>	D3391-3
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> H	<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<b>Lathe Section</b>						
14.000	+/-0.010	14.000	/		met tape	
3.500	+/-0.010	3.498	/		vern. SL-3	
88.93	+/-0.030	88.940	/		met tape	
44.995	+/-0.030	45.00	/			
Ø3.200	+/-0.010	3.202	/		mic CNC-05	
88.93	+/-0.030	88.937	/		met tape	
Ø3.750	+/-0.010	3.745	/		vern. SL-3	
30° x 160° chamfer	+/-0.010	30° x 160°	/			

**Measured by:** JI **Date:** 11/02/08

**Audited by:** [Signature] **Date:** 11/02/08

<b>HAAS Section</b>						
1.526	+0.000/-0.030	1.510	/		vern CNC-02	
7.500	+/-0.010	7.500	/			
27.750	+/-0.010	27.750	/		met tape	
31.750	+/-0.010	31.750	/			
35.250	+/-0.010	35.250	/			
3.300	+/-0.010	3.300	/			
0.200	+/-0.010	0.201	/			
3.520	+/-0.010	3.516	/			
0.687	+0.010/-0.000	0.690	/			
R0.062	+/-0.010	0.062	/			
Ø0.484	+0.005/-0.001	0.487	/			

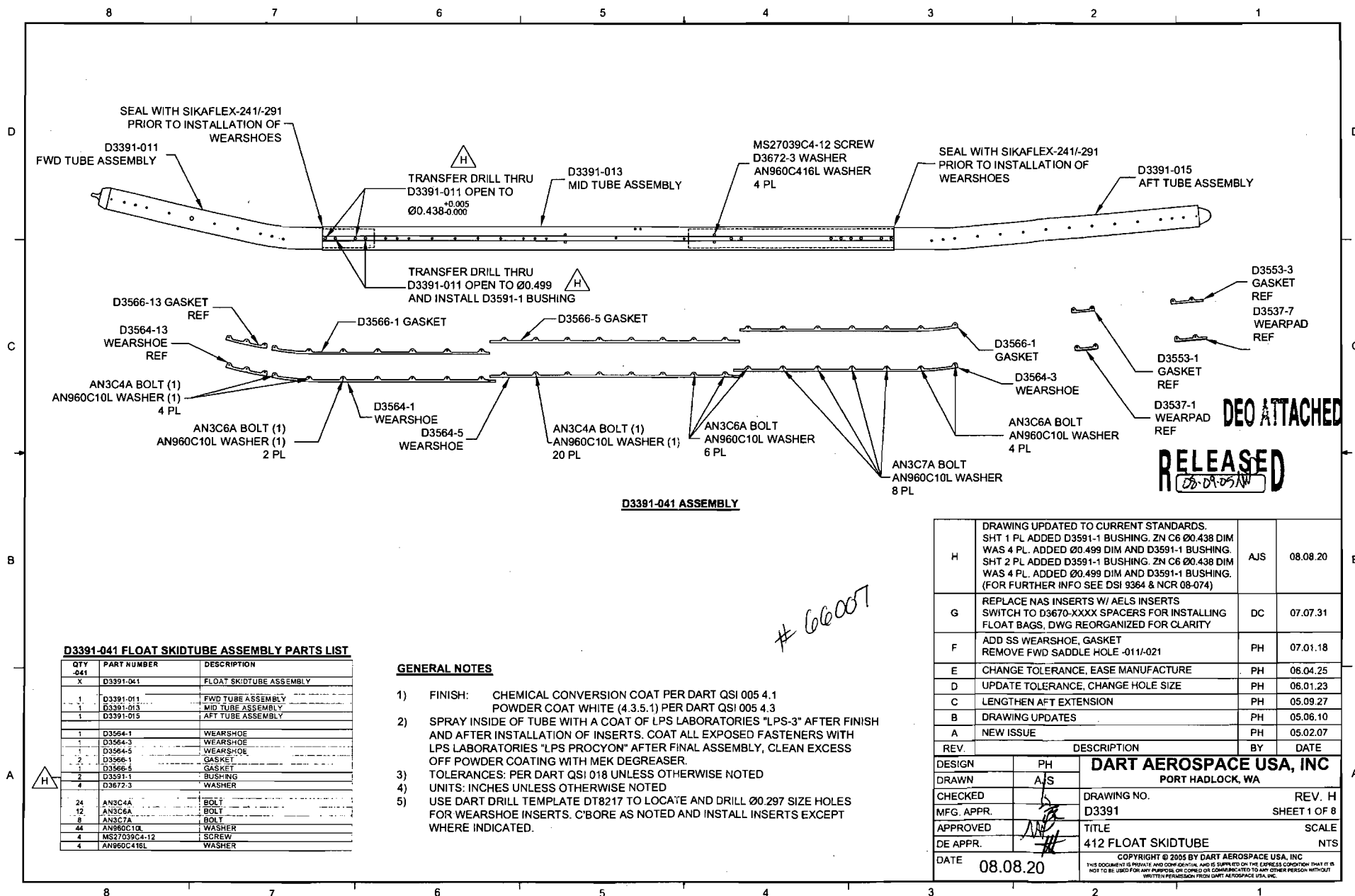
**Measured by:** JI **Date:** 11/02/08

**Audited by:** [Signature] **Date:** 11-2-08

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	

31  
5-1

7-7



# **D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

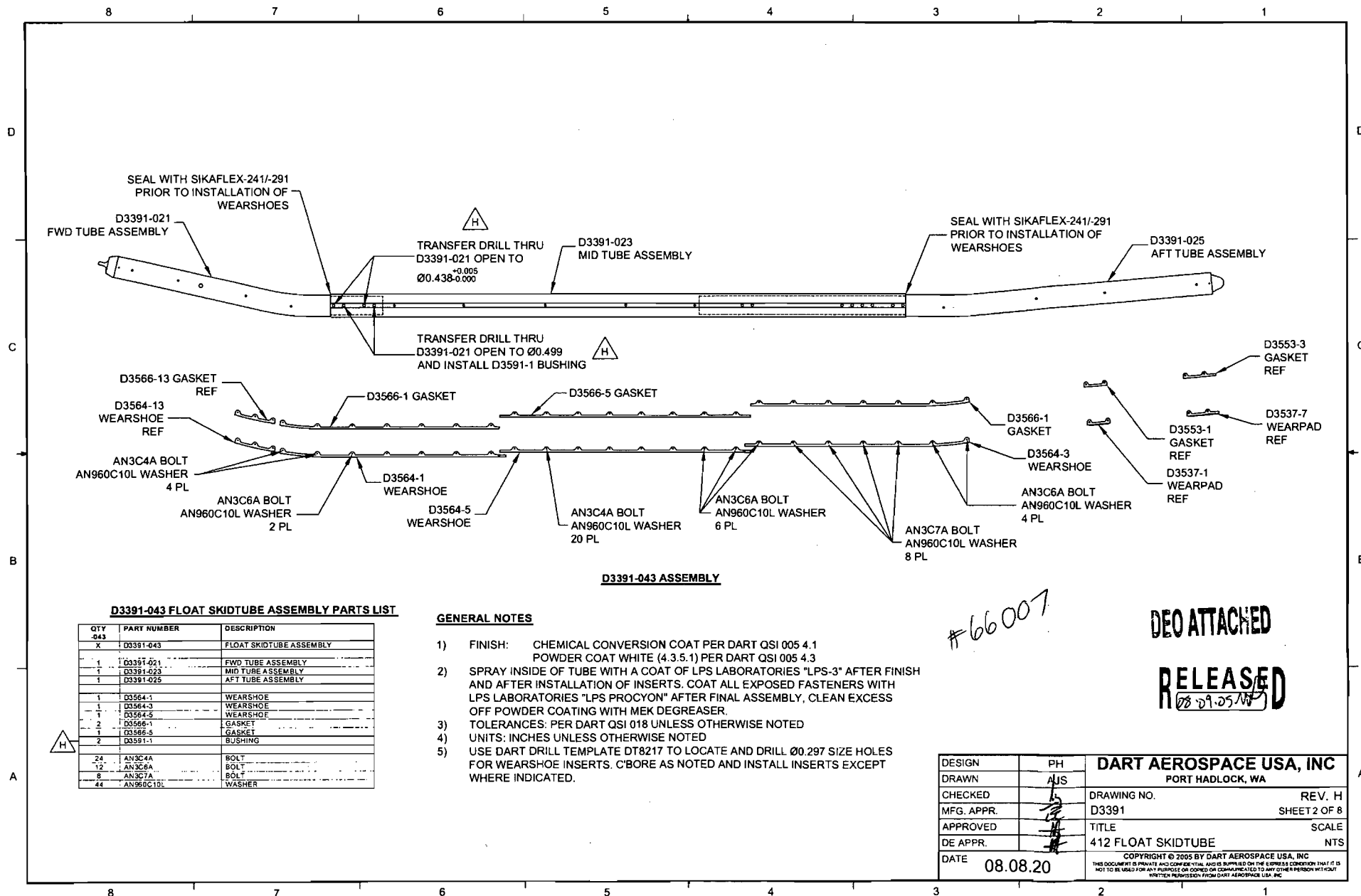
QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

## **GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH  
AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH  
LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS  
OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES  
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT  
WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.08.20		
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**D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
1	D3391-043	Float Skidtube Assembly
1	D3391-021	FWD Tube Assembly
1	D3391-023	MID Tube Assembly
1	D3391-025	AFT Tube Assembly
1	D3564-1	Wearshoe
1	D3564-3	Wearshoe
1	D3564-5	Wearshoe
2	D3566-1	Gasket
1	D3566-5	Gasket
2	D3591-1	Bushing
24	AN3C4A	Bolt
12	AN3C6A	Bolt
8	AN3C7A	Bolt
44	AN960C10L	Washer

**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

#66007

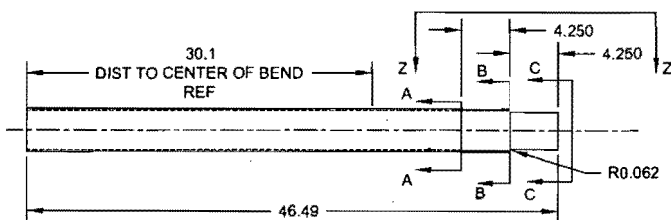
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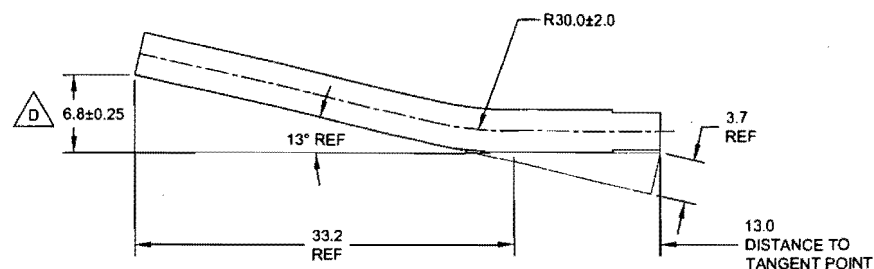
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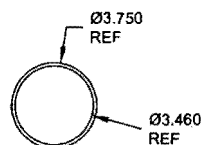




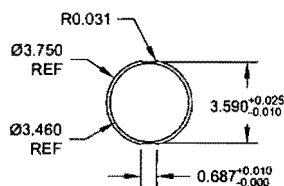
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



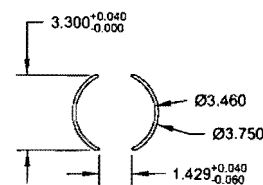
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



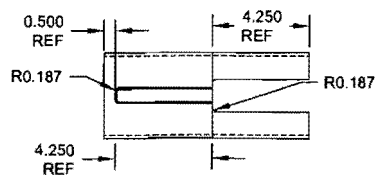
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**SECTION B-B**  
SCALE 2X



**SECTION C-C**  
SCALE 2X



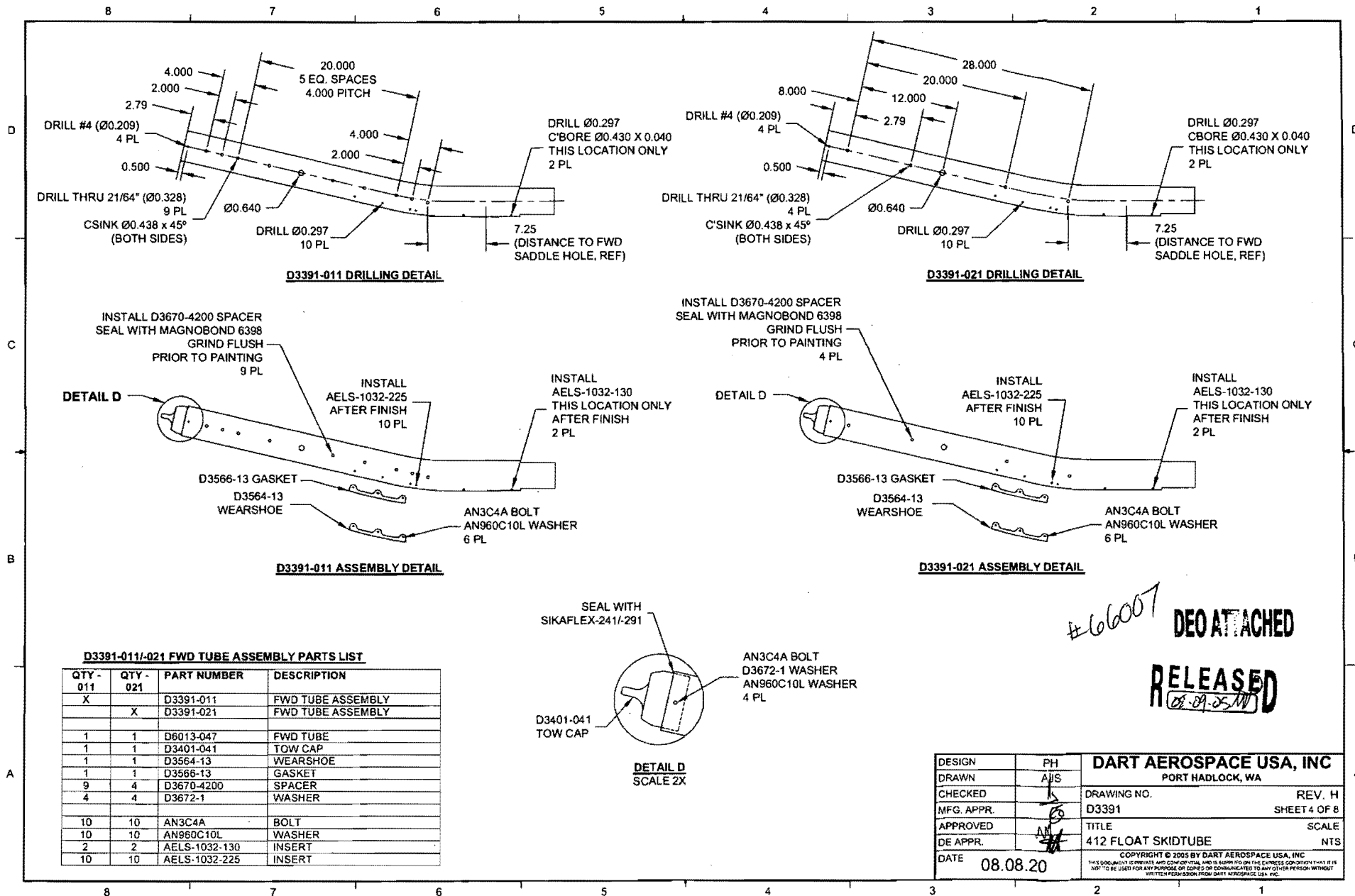
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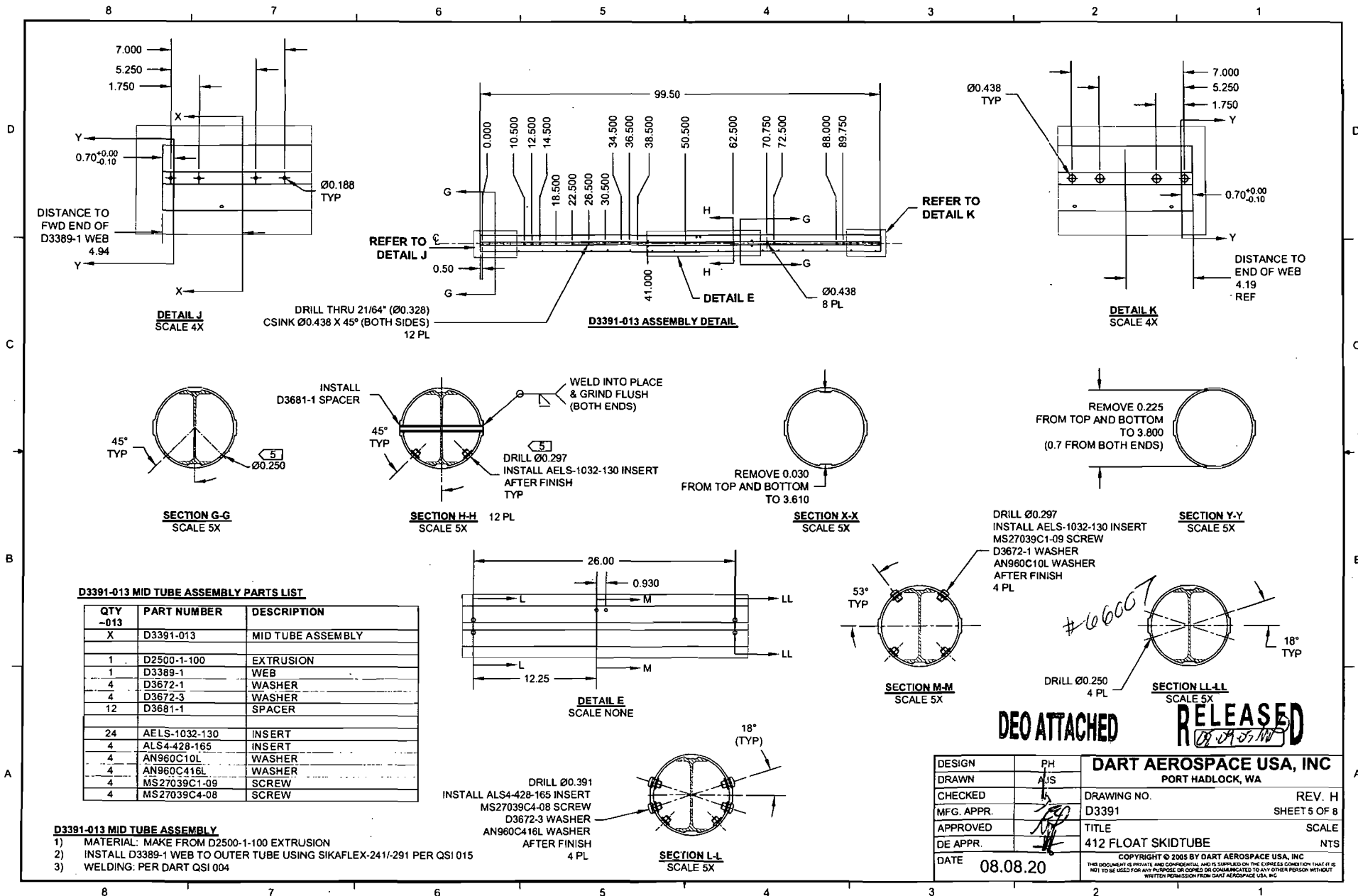
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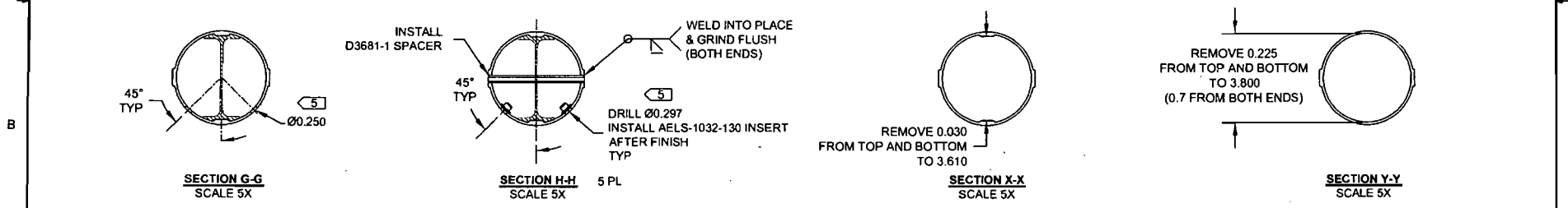
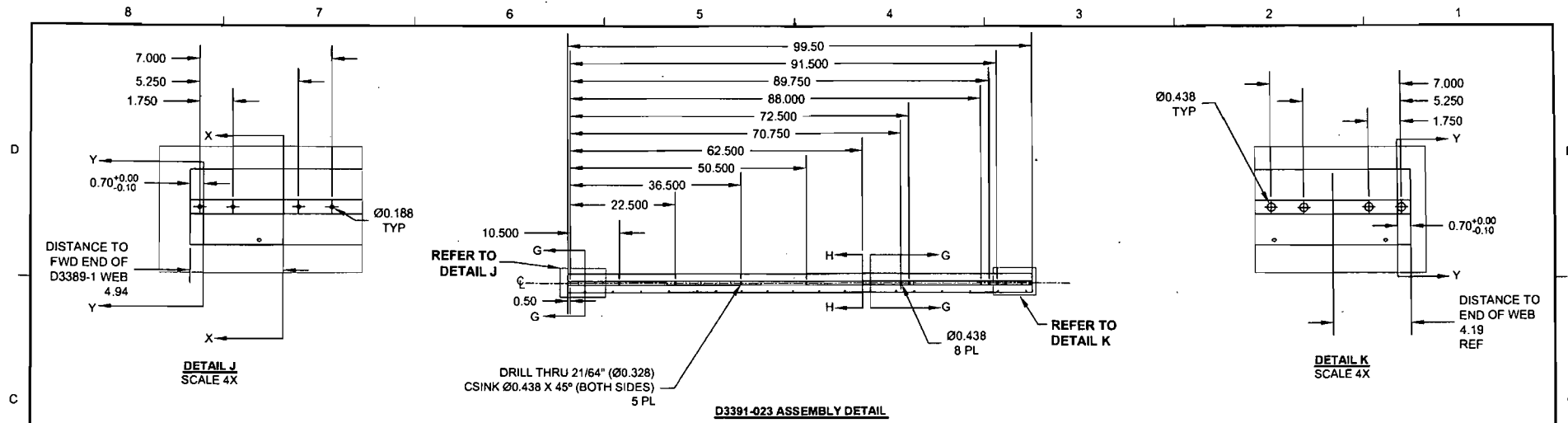












**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

- D3391-023 MID TUBE ASSEMBLY**
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
  - 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
  - 3) WELDING: PER DART QSI 004

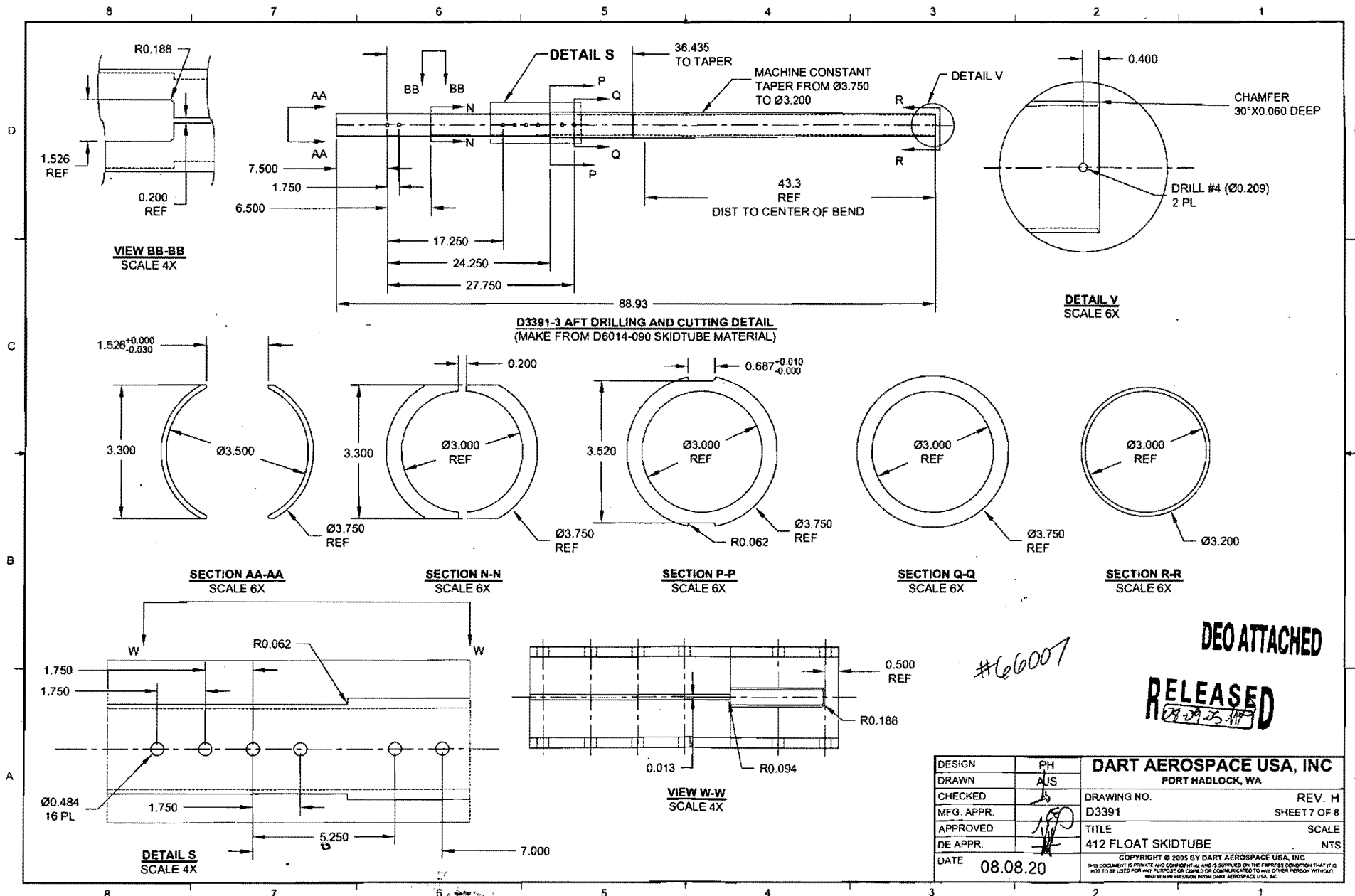
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MFG. APPR.		REV. H SHEET 6 OF 8
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DE APPR.		412 FLOAT SKIDTUBE NTS
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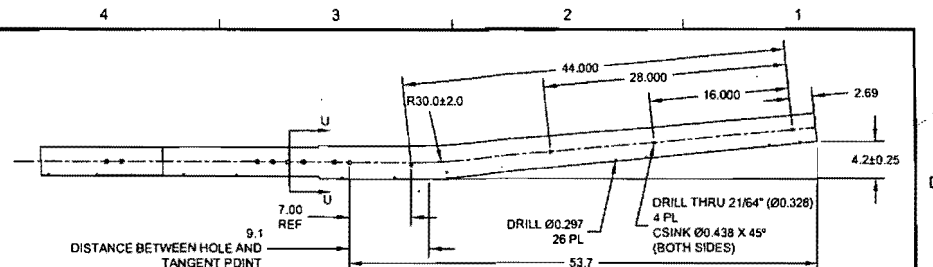




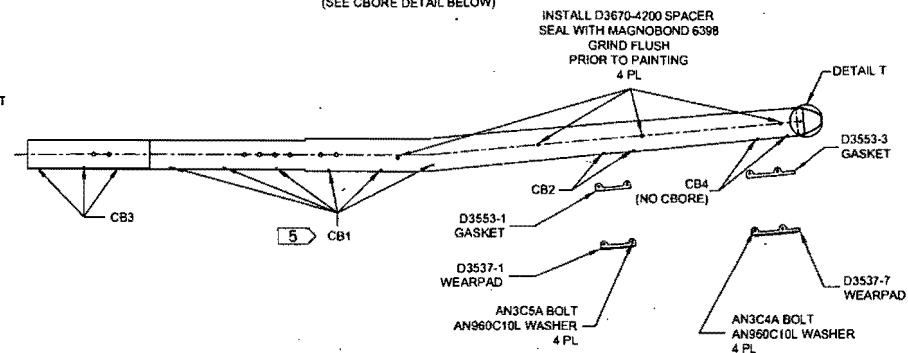
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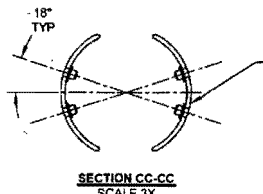


**D3391-025 BENDING AND DRILLING DETAIL**  
(SEE CBORE DETAIL BELOW)

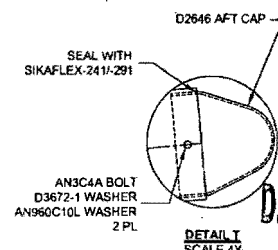


**D3391-025 ASSEMBLY AND BORE DETAIL**  
(SEE TABLE)

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AEIS-1032-130	INSERT
12	12	AEIS-1032-225	INSERT
4		ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER







DRILL Ø0.391  
CBORE Ø0.516 X 0.040 DEEP  
INSTALL ALS4-428-165 INSERT  
4 PL



DEO ATTACHED

RELEASED  
08-09-05

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 8 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>h</i>	MFG. APPR. <i>AA</i>	APPROVED <i>MP</i>		DE APPR. <i>MP</i>		
DATE 09.09.23	DATE 09.09.24	DATE 09/09/25	DATE 09/09/30		DATE 09/09/30		

**PURPOSE:**

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

**CHANGE:**

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~  
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~  
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS  
 OFF POWDER COATING WITH MEK DEGREASER.

**RELEASED**  
 2010-02-02

*MP*

*#66007*

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